

HAHN AND ASSOCIATES, INC.
ENVIRONMENTAL CONSULTANTS

January 15, 2018

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Northwest Region, Portland Office
Portland Harbor Section
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HAI Project No. 2708
DEQ ECSI File No. 84

**SUBJECT: Progress Report, NW Natural Site, 7900 NW St. Helens Avenue and
7200 NW Front Avenue, Portland, Oregon**

Mr. Bayuk:

Hahn and Associates, Inc. (HAI) has prepared this monthly Progress Report to summarize Remedial Investigation/Feasibility Study (RI/FS) and source control-related work activities conducted by NW Natural relating to historic manufactured gas plant (MGP) activities at the NW Natural Site during the month of December 2017. NW Natural is completing upland investigation and cleanup activities at the NW Natural Site under the Voluntary Agreement No. ECV-C-WMCVC-NWR-94-13 (Voluntary Agreement) between NW Natural and the Oregon Department of Environmental Quality (DEQ).

**1. ACTIONS TAKEN UNDER THE VOLUNTARY AGREEMENT DURING
THE PREVIOUS MONTH**

Tasks related to maintenance of the HC&C system and the groundwater treatment system were conducted in December 2017, with the system operating in full long-term operational mode.

Aqua Gard CO₂ injections were completed at groundwater extraction well locations during the week of December 18, 2017 as part of routine O&M of the HC&C system.

The pump in extraction well PW-9L experienced a fault over the weekend of December 16/17. A new pump was placed within well PW-9L on Monday December 18, 2017 in accordance with routine O&M protocols, returning full functionality to this well.

A total of 10,900,695 gallons of water were treated in the on-site groundwater treatment plant and discharged during December 2017 with all monitoring and reporting completed in accordance with the facility's NPDES permit.

The MW-6/MW-13 Fill Zone DNAPL Recovery system was re-started after the pumps were returned to wells MW-6-32 and MW-13-30 on December 13, 2017. The DNAPL recovery system had been off for an extended period of time while establishing a new vendor for recovered DNAPL-water mixture recovered from this system. At the time that the pumps were returned to the wells, 3 feet and 9 feet of DNAPL were measured at the base of wells MW-6-32 and MW-13-30, respectively.

Manual groundwater level and DNAPL measurements were collected by HAI on December 18, 2017 as part of NW Natural's routine fourth quarter groundwater monitoring event at the Gasco and Siltronic properties.

Baseline DNAPL removal as needed to maintain levels below the top of the well sumps was conducted by Anchor QEA during December 2017 in the following wells near the river shoreline.

- DW-14
- MW-26U
- MW-27U
- MW-30U
- MW-38U
- MW-PW2L
- PW-2L
- PW-6U
- PW-13U
- PW-14U

The following upland FS related field tasks were in progress during December:

- Weekly measurements of DNAPL presence at Fill WBZ wells MW-43F, MW-44F, and MW-45F were conducted during December. During December, measurements identified up to 5 inches of DNAPL in the base of well MW-43F; no DNAPL indications within well MW-44F; and up to 1.2 feet of DNAPL at the base of well MW-45F. When measured on December 18, 2017 an insufficient volume of DNAPL was present in MW-43F for laboratory analysis.

2. ACTIONS SCHEDULED TO BE TAKEN IN THE NEXT MONTH

NW Natural and DEQ technical working group communications and meetings will occur as needed within the next month to discuss ongoing project tasks.

Routine baseline DNAPL measurements and removal will continue as needed to maintain levels below the top of the well sumps in nearshore HC&C-related wells.

Continue technical discussions with DEQ regarding the proposed reinstatement of the +/- 0.05 ft potential error criterion for HC&C water level data.

A Stormwater Source Control Measures and Performance Monitoring Work Plan for the NW Natural Gasco site will be submitted to DEQ during January 2018 (submitted January 5, 2018).

The following upland FS related tasks will be in progress:

- A DNAPL sample will be collected for laboratory testing from DNAPL mobility assessment wells MW-43F and MW-44F should measurable thicknesses / sufficient volumes be identified at these locations during January.

3. LABORATORY TEST RESULTS RECEIVED DURING THE PREVIOUS MONTH

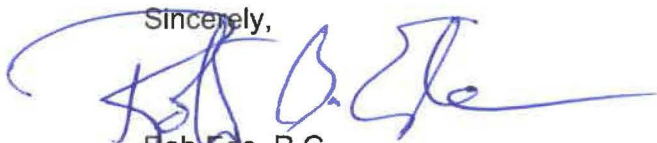
NW Natural receives test results on a regular basis as a result of routine monitoring related to groundwater quality or as specified by various permit requirements. Additionally, test results are periodically received through implementation of task-specific investigation activities resulting from agency-approved work plans. These data are provided to DEQ or the permitting authority (if different than DEQ) in accordance with previously-approved formats and schedules.

4. PROBLEMS EXPERIENCED DURING THE PREVIOUS MONTH

There were no problems of significance experienced during the previous month.

Should you have any questions, please contact the undersigned.

Sincerely,



Rob Ede, R.G.
Principal

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